

## INTERPRETING FOR THE GENERAL PUBLIC

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Communication is an art that deserves the careful attention of anyone who has something worth saying, for it does not matter how much you know about a subject if you are unsuccessful at communicating that information. It is a skill which can be improved through conscientious efforts, although attempts to develop that skill will not always succeed. For example, during a recent class discussion of avian adaptations for feeding, a student attempted to explain the ability of a Galapagos finch to probe for grubs using a cactus spine. She claimed that this behavior was related to the fact that the bird's pecker was neither long enough nor hard enough to poke into holes in the trees. In this instance, the student's choice of words was inappropriate, but her attempt to enliven that explanation was laudable.

A more significant failure in communicating is the tendency of experts in any subject to speak beyond the comprehension level of their audience. It is difficult to put technical concepts into simple language but important if you hope to be understood by the general public. Studies have shown that the comprehension level of a group of average American adults is equivalent to that of a tenth grade class. In Hawai'i, that level is probably even lower. In 1979, I conducted a survey of 117 ninth and tenth grade students in Environmental Science classes at Waimea High School on Kaua'i. Admittedly, the students were of below average scholastic ability. Nevertheless, the results of the survey were disturbing, pointing to broad misconceptions and a general lack of understanding of Hawaiian natural history. For example, more than half of the students thought that the feral pig was a native mammal and the common myna a native bird. Approximately 60% thought that both the koa and the koa haole were native Hawaiian plants. It came as no surprise to me that not a single student knew the meaning of the term endemic, but I was astounded to discover that 56% of the students did not know what an endangered species was. At first, I was amused to read answers like "as one dangerous animal like one tiger." But my mood turned to dismay as I read on. Responses varied from "wild animals" to "poisonous plants;" from "animals that are out of danger" to those that are "in danger of being attacked;" from "animals that won't hurt you" to "things that can't be touched." One student even went so far as to claim that an endangered species was "some kinda science chemical."

We have a serious problem here. The continued health of our besieged native ecosystems depends, not only upon the good works of Hawai'i's scientists, but also upon the support of a concerned

and informed public. Hawai'i's public schools are becoming interested in the subject of environmental science, but you will have to struggle to find any reference to our native ecosystems in the couple of hundred pages of the Department of Education's environmental education curriculum guide.

Obviously, those of us who are teaching Hawai'i's youth need all the help we can get. And you can help. Those of you who are working to understand and perpetuate native Hawaiian ecosystems can help by making an effort to communicate your findings to Hawai'i's people. But do not make the mistake of speaking over the heads of your audience, for there is no better way to alienate the average citizens than to make them feel dumb or inferior. Expect naivety from local audiences, but refrain from treating them like educationally deprived children. Meet them at their level, and keep in mind that you may have to define even the most basic technical terms, and these should be used sparingly.

During the past year, I have begun to work on the renovation of exhibits in the Kokee Natural History Museum on Kaua'i. Armintha Neal, an expert in creating small museum exhibits, came from the Denver Museum of Natural History to serve as a consultant for our project. Her advice on writing museum labels is relevant to any attempt at interpreting scientific information for the general public. According to Ms. Neal (1976), the attention span of a typical adult museum visitor averages about 45 seconds, and at a reading rate of 250 to 300 words per minute, this person would digest little more than 200 words. Also, there is a strong preference for relatively simple words, for short sentences of 18 to 20 words, and for short paragraphs of 50 to 60 words. One method of evaluating the complexity of your own writing is to use the "Write Formula" developed by John O'Hayre, which is explained in a Bureau of Land Management, USDI publication entitled "Gobbledygook Has Gotta Go."

Publishing articles for scientists in scientific journals is certainly a worthwhile endeavor, but it is of equal importance to get the message across to the general public. It is a job that cannot be left for teachers, as it will thereby be left mostly undone. The news media is at your service, providing the opportunity to communicate the excitement and pleasure which you have found in your own work. The press release is the key to turning on local people to the fascination of Hawai'i's natural environment. Many of our ecological problems have their source in politics, and a well-informed public can be very effective in influencing political issues. It is up to you!

#### LITERATURE CITED

- Neal, A. 1976. Exhibits for the small museum. American Association for State and Local History.
- O'Hayre, J. Gobbledygook has gotta go. Bureau of Land Management, USDI.